sealing the semiconductor assembly with a resin injected into the cavity from a resin injection port of the mold, the stress caused in the lead frame preventing the semiconductor assembly from being lifted up or pushed down by the resin when the resin is injected into the cavity; and

pulling the support pin from the cavity into the mold before the resin is cured to release the semiconductor assembly from the pressure applied by the support pin.

12. (Thrice Amended) A method of manufacturing a semiconductor device comprising the steps of:

supporting a heat radiator placed in a cavity of a mold with at least one support pin;

placing a die pad of a lead frame to which a semiconductor chip is secured on the heat radiator;

closing the mold;

applying a pressure to the heat radiator by at least one support pin so as to cause a stress in the lead frame;

injecting a resin into the cavity from a resin injection port, the stress caused in the lead frame preventing the heat radiator from being lifted up or pushed down by the resin when the resin is injected into the cavity; and

pulling the support pin from the cavity into the mold before the resin is cured to release the heat radiator from the pressure applied by the support pin.

15. (Thrice Amended) A molding device for a semiconductor device comprising:

a mold which is capable of being opened or closed and is provided with a cavity for placing a semiconductor assembly which comprises a semiconductor chip secured to a die pad of a lead frame;

a resin injection port provided to the mold for injecting a resin into the cavity;

at least one support pin provided in the cavity such that the support pin is able to enter into or be pulled out of the cavity to come in contact with the semiconductor assembly in the cavity; and

an actuator which moves the support pin in a direction of the axis of the support pin such that during injecting the resin into the cavity the support pin applies a pressure to the semiconductor assembly so as to cause a stress in the lead frame, the stress caused in the lead frame preventing the semiconductor assembly from being lifted up or pushed down by the resin when the resin is injected into the cavity, and such that the support pin releases the semiconductor assembly from the pressure applied by the support pin after the resin is injected before the resin is cured.

REMARKS

Claims 1-9, 11-18, 20-22, 24-27, 29 and 30 are pending. By this Amendment, claims 1, 12 and 15 are amended.

Applicant gratefully acknowledges that the Office Action indicates that claims 11 and 24 include allowable subject matter.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Reconsideration based in the following remarks is respectfully requested.

I. The Claims Define Patentable Subject Matter

The Office Action rejects claims 1-7, 15-17, 20 and 21 under 35 U.S.C. §102(b) over JP 09076282 (the 282 Patent); claims 25 and 26 under 35 U.S.C. §103(a) over the 282 Patent; and claims 8, 9, 12, 14, 18, 22, 27 and 30 under 35 U.S.C. §103(a) over the 282 Patent in view of JP 06177268 (the 268 Patent). These rejections are respectfully traversed.

The 282 Patent, whether alone or in combination with the 268 Patent, does not disclose or suggest a method of manufacturing a semiconductor device including, inter alia,